

DATA STRUCTURES COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	Baghdad University /Collage of science for women
2. University Department/Centre	Computer Science Department
3. Course title/code	Data structures /209 CDT
4. Programme(s) to which it contributes	
5. Modes of Attendance offered	The presence of an actual study and there was no remote , according to the laws in force

6. Semester/Year	Second year /second semester
7. Number of hours tuition (total)	30 hours a theoretical, 60 hours practical
8. Date of production/revision of this specification	20/4/2016
9. Aims of the Course	
<p>The course aims to accommodate data structures concepts and algorithms adopted in dealing with them to solve problems in a logical manner, and how to analyze these algorithms and the possibility of generalized to solve problems-like, and teach students using the appropriate structures to existing problems to achieve efficient solutions as well as the conversion algorithms to software language c ++, the students implemented in laboratories</p>	

10. Learning Outcomes, Teaching ,Learning and Assessment Methods
<p>X- Knowledge and Understanding</p> <p>A1- identify and understand data structures</p> <p>A2- recognition algorithms in the field of data structures and understanding</p> <p>A3- identify useful applications for data structures and understanding</p> <p>A4- to identify the types of possible operations on each data structure and understanding</p> <p>A5- identifying the search algorithms and sorting, understanding</p> <p>A6- developing programming skills c ++ language to deal with the data structures</p>
<p>B. Subject-specific skills</p> <p>B 1 - Choosing the right software architecture to solve problems</p> <p>B 2 - Choosing the right algorithm to deal with the issue required</p>

B 3 Developing algorithms to deal with different situations

B4- writing efficient programs to implement algorithms

Teaching and Learning Methods

Education: Provide printed lectures, and a variety of modern and rich sources of example.

Learning: asking questions and inquiries and make the student turns to teaching explanation.

Learning: direct questions for students to get them to pay attention and focus.

Assessment methods

Quizzes semi-weekly-

Ask questions sudden and interlaced with an explanation of lectures -

Monthly and quarterly tests-

C. Thinking Skills

C1-ask range solutions to the same problem and discussed both individually and determine the appropriate method of solution

C2- put forward solutions contain inaccuracies and identifying these mistakes After discussion and processed

C 3-asked questions that oral exceptional need exceptional answers as

be of a specified weight of evaluation and grading hand, which is a strong incentive for the participation of students and rivalry

D. General and Transferable Skills (other skills relevant to employability and personal development)

D1-distribution specific topics for each group of students to prepare research reports on the World Wide Web, the sources or the library and drafted in accordance with the basis of the approved formulation research

D2-giving leadership debate administration, however, the group discussion and enable them to lead and manage the dialogue

D3-alert on errors in the oral answers students

D4- alert on errors in the answers written by students and pointing to her knowledge by the student.

11. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	2 theoretical with 4 practical	Explain array concept and operations	One and two dimensions arrays	According to point 10 above and as needed	According to point 10 above and as needed
2	2 theoretical with 4 practical	Stack concept	Stack concept	According to point 10 above and as needed	According to point 10 above and as needed
3	2 theoretical with 4 practical	Addition and deletion of stack	Stack operations	According to point 10 above and as needed	According to point 10 above and as needed
4	2 theoretical with 4 practical	Notations concept	Convert infix to postfix expression	According to point 10 above and as needed	According to point 10 above and as needed
5	2 theoretical with 4 practical	Recursion concept	Recursion	According to point 10 above and as needed	According to point 10 above and as needed
6	2 theoretical with 4 practical	Queue concept	Queue concept	According to point 10 above and as needed	According to point 10 above and as needed
7	2 theoretical with 4 practical	Addition and deletion of queue	Queue operation	According to point 10 above and as needed	According to point 10 above and as needed

8	2 theoretical with 4 practical	Addition and deletion of CQ	Circular queue	According to point 10 above and as needed	According to point 10 above and as needed
9	2 theoretical with 4 practical	Linked list concept	Linked list	According to point 10 above and as needed	According to point 10 above and as needed
10	2 theoretical with 4 practical	Addition , deletion and search of linked list	Single linked list operation	According to point 10 above and as needed	According to point 10 above and as needed
11	2 theoretical with 4 practical	Addition , deletion and search of double linked list	Double linked list operation	According to point 10 above and as needed	According to point 10 above and as needed
12	2 theoretical with 4 practical	Sorting concept	Sorting concept	According to point 10 above and as needed	According to point 10 above and as needed
13	2 theoretical with 4 practical	Sort techniques	Bubble and insertion sort	According to point 10 above and as needed	According to point 10 above and as needed
14	2 theoretical with 4 practical	Sort techniques	Quick sort	According to point 10 above and as needed	According to point 10 above and as needed
15	2 theoretical with 4 practical	Search concept	Sequential and binary search	According to point 10 above and as needed	According to point 10 above and as needed

12. Infrastructure	
<p>Required reading:</p> <ul style="list-style-type: none"> · principles of data structures using c and c++ by Vinu V Das 2006 · data structures in c ,noelkalicharan,2008 · data structures and algorithms in java by Robert lafore 2002 	
Special requirements (include for example workshops, periodicals, IT software, websites)	
Community-based facilities (include for example, guest Lectures , internship , field studies)	

13. Admissions	
Pre-requisites	Objected Oriented and structure Programming
Minimum number of students	Depending on the size of the hall, according to the division of the classes, 20
Maximum number of students	Depending on the size of the hall, according to the division of the classes, 30